

CLAIMS

1. Control and/or monitoring device, comprising a number of peripheral devices (Pa, Pb, Pc, Pn), a control central processing unit (4), and a communication network (5) connecting the control central processing unit (4) to the various peripheral devices (Pa, Pb, Pc, Pn), characterised in that it comprises moreover an electrical security circuit (6) selectively adopting a security configuration or an anomaly configuration, in that each peripheral device (Pa, Pb, Pc, Pn) is at all times subject to a condition which affects it entirely or partially, that belongs to a number of possible conditions including a reference condition, and for which this peripheral device selectively reports in the form of a context code (Ka, Kb, Kc, Kn), and in that the control central processing unit (4) comprises at least a first transmission controller (41) which has, for each peripheral device (Pa, Pb, Pc, Pn), a stored reference code (Ra, Rb, Rc, Rn) formed by the context code (Ka, Kb, Kc, Kn) transmitted by this peripheral device (Pa, Pb, Pc, Pn) for its reference condition, which takes the context code (Ka, Kb, Kc, Kn) of each of each of the peripheral devices (Pa, Pb, Pc, Pn) by periodic polling of these peripheral devices according to a predetermined addressing order, which carries out comparisons of the context codes (Ka, Kb, Kc, Kn) one by one that have been taken by polling of the peripheral devices and stored reference codes (Ra, Rb, Rc, Rn) it stores, and which commands the passage of the security circuit (6) from its security configuration to its anomaly configuration in response to the detection of the absence of one of the

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codes to be compared or a disparity between the codes compared by it.

2. Control and/or monitoring device of claim 1,
5 characterised in that each peripheral device (Pa, Pb, Pc, Pn) is identified by an identification code (Ca, Cb, Cc, Cn) that is specific to it and that this peripheral device (Pa, Pb, Pc, Pn) sends to the control central processing unit (4), as a context code (Ka, Kb, Kc, Kn),
10 in the situation where it is in its reference condition, and only in this situation.

3. Control and/or monitoring device of claims 1 or 2, characterised in that the control central processing unit
15 (4) includes a second transmission controller (42) that also has, for each peripheral device (Pa, Pb, Pc, Pn), a stored reference code (Ra, Rb, Rc, Rn) formed by the context code (Ka, Kb, Kc, Kn) that this peripheral device (Pa, Pb, Pc, Pn) provides for its reference condition,
20 and that this second transmission controller (42), independently of the first transmission controller (41), carries out comparisons, one by one, of the context codes (Ka, Kb, Kc, Kn) taken by polling of the peripheral devices (Pa, Pb, Pc, Pn) and the reference codes (Ra, Rb,
25 Rc, Rn) stored by it, and commands the passage of the security circuit (6) from its security configuration to its anomaly configuration in response to the detection of the absence of one of the codes to be compared or a disparity between the codes compared by it.

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4. Control and/or monitoring device of claim 3, characterised in that each transmission controller (41,

42) comprises, in memory, a fixed table (411, 421) of reference codes (Ra, Rb, Rc, Rn) stored during an installation phase of the device and a dynamic table (412, 422) registering the context codes (Ka, Kb, Kc, Kn) taken by polling of the peripheral devices (Pa, Pb, Pc, Pn), and in that each transmission controller (41, 42) compares the respective contents of the fixed table (411, 421) and the dynamic table (412, 422) by periodically updating the contents of the dynamic table (412, 422).

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5. Control and/or monitoring device of any of the previous claims, characterised in that the peripheral devices (Pa, Pb, Pc, Pn) are electrically powered by the control central processing unit (4) via the communication network (5).

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6. Control and/or monitoring device of any of the previous claims, characterised in that the communication network (5) comprises a wire bus (50) connecting all of the peripheral devices (Pa, Pb, Pc, Pn) to the central processing unit (4).

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7. Control and/or monitoring device of any of the previous claims, characterised in that each peripheral device (Pa, Pb, Pc, Pn) includes a pair of interactive organs (1a, 2a; 1b, 2b; 1c, 2c; 1n, 2n) including a master organ (2a) and a slave organ (1a) associated to one another, in that the communication network (5) connects the central processing unit (4) to the various control master organs (2a, 2b, 2c, 2n), in that for each peripheral device (Pa, Pb, Pc, Pn), the condition represented by the context code (Ka, Kb, Kc, Kn) is a

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condition affecting the slave organ (1a, 1b, 1c, 1n) or a relationship between the slave organ (1a, 1b, 1c, 1n) and the master organ (2a, 2b, 2c, 2n) of this peripheral device, and in that the master organ (2a, 2b, 2c, 2n) of each peripheral device electrically powers the slave organ (1a, 1b, 1c, 1n) of this peripheral device and constitutes an interface between this slave organ (1a, 1b, 1c, 1n) and the first transmission controller (41) of the control central processing unit (4).

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8. Control and/or monitoring device of any of the previous claims combined with claims 5 and 7, characterised in that the master organs (2a, 2b, 2c, 2n) are electrically powered by the first controller (41) via the communication network (5).

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9. Control and/or monitoring device of any of the previous claims combined with claims 2 and 7, characterised in that the slave organ (1a, 1b, 1c, 1n) of each peripheral device (Pa, Pb, Pc, Pn) includes an electronic label (10, 11) in which is stored the identification code (Ca, Cb, Cc, Cn) of this peripheral device (Pa, Pb, Pc, Pn), and in that the master organ (2a, 2b, 2c, 2n) of this same peripheral device (Pa, Pb, Pc, Pn) comprises a corresponding electronic label reader (20 to 23).

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10. Control and/or monitoring device of claim 9, characterised in that each peripheral device (Pa) also comprises a state encoder (3) producing a state signal (stat_a) that depends on the condition to which this peripheral device (Pa) is subjected, and that is

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transmitted by the electronic label (10, 11) of this peripheral device (Pa) to the corresponding master organ (2a), or that is created directly by this master organ (2a).

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11. Control and/or monitoring device of claim 10, characterised in that the slave organ (1a) of each peripheral device (Pa) is mobile with respect to the master organ (2a) of this peripheral device (Pa), that
10 the state signal (stat_a) produced by the state encoder (3) of this peripheral device is representative of a relative position of this slave organ (1a) with respect to this master organ (2a), and in that this relative position constitutes the condition to which this same
15 peripheral device (Pa) is subjected.

12. Control and/or monitoring device of claims 10 or 11, characterised in that for each peripheral device (Pa), the state encoder (3) comprises at least one permanent
20 magnet (311, 312) carried by one of the interactive organs (1a) of this peripheral device (Pa), and a magnetic field sensor (321, 322) carried by the other interactive organ (2a) of this peripheral device (Pa).

25 13. Control and/or monitoring device of claim 12, characterised in that for each peripheral device (Pa), the state encoder (3) essentially includes a pair (311, 312) of permanently magnetised tracks distant from one another, carried by the slave organ (1a) of this
30 peripheral device (Pa), and a corresponding pair (321, 322) of Hall effect sensors, carried by the corresponding master organ (2a), that the magnetised tracks (311, 312)

are positioned opposite the corresponding Hall effect sensors (311, 312) for a reference relative position of the slave organ (1a) with respect to the master organ (2a), that is unique and which constitutes the reference
5 condition, and that the state signal (stat_a) takes at least two different logic values, depending on whether the slave organ (1a) is in its reference relative position with respect to the master organ (2a) or not.